

ask RCA for  
ref. No. 14

PRIVILEGED AND CONFIDENTIAL  
ATTORNEYS' WORK PRODUCT

Covington & Burling DRAFT -

August 3, 1987

SUMMARY OF DATA ON CAROB BEAN GUM AND EXTRACT

Abstract. Carob bean gum and extract are natural plant derivatives which are used in foods, drugs, and cosmetics. When used as flavors in the manufacture of cigarettes, a typical cigarette will contain less than one milligram of carob bean, or approximately 0.1% of the weight of a cigarette.

Mutagenicity studies comparing cigarette smoke condensate from reference cigarettes to condensate from cigarettes containing 1.5, 3 or 6 times the amount of carob bean gum used in typical commercial cigarettes indicated that carob bean gum does not alter the biological activity of the condensate. Inhalation studies comparing the smoke of reference cigarettes to smoke from cigarettes containing five times the level of carob bean used in a typical commercial cigarette generally indicated no adverse health effects, though in one study equivocal results were obtained.

Studies have shown that carob bean is toxic only at extremely high doses, and oral LD<sub>50</sub> values for rats, mice, rabbits and hamsters are above 8 grams per kilogram. Tests have shown that carob bean gum is not mutagenic or teratogenic, and a National Toxicology Program bioassay indicated that carob bean gum is not carcinogenic. Carob bean has no adverse cardiovascular or respiratory effects, and it does not appear to be immunotoxic.

Background. Carob bean gum (CAS No. 9000-40-2) is also referred to as St. John's Bread or locust bean gum. Carob bean gum is obtained by removing and processing the endosperm from seeds of the carob tree (Ceratonia siliqua), a large leguminous evergreen which is widely cultivated in the Mediterranean area. Cyprus, Spain, Italy, Greece and Syria are the most important producing areas. Processing of the ground endosperm is accomplished by dispersing the fine powder in boiling water and filtering to remove impurities. The gum

2029062265